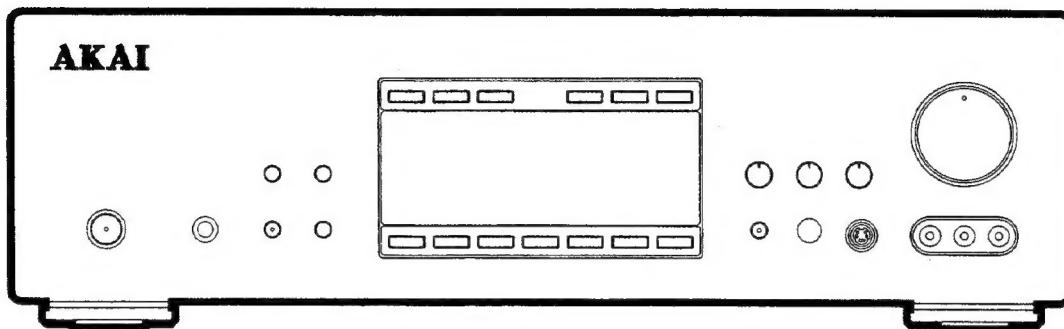


AKAI SERVICE MANUAL



PRO LOGIC AMPLIFIER

SPECIFICATIONS

MODEL AM-4000DPL

● **Amplifier(When Surround is "OFF")**

1KHz continuous power	: 2ch × 100W, 4 Ω
T. H. D.	: 0.09% (1KHz/100W/4 Ω)
S/N Ratio	
PHONO(IHF-A)	: 70dB
TUNER, TAPE	: 90dB
CD, AUX	: 90dB

Sensitivity and impedance

PHONO	: 2.6mV/47K Ω
TUNER	: 180mV/47K Ω
CD	: 180mV/47K Ω
AUX	: 180mV/47K Ω

Frequency Response

PHONO (RIAA STANDARD CURVE)	: 30Hz~15KHz(±0.8dB)
TUNER	: 30Hz~70KHz
CD	: 30Hz~70KHz
AUX	: 30Hz~70KHz

● **Amplifier**

1. When Surround is "ON"

1KHz continuous output	
3channel system	: 3ch × 50W, 4 Ω
T. H. D.	: 1KHz/4 Ω
Center	: 0.09%
Rear	: 0.9%
Front	: 0.09%

2. When Dolby Pro logic is "ON"

Frequency Response	
Center	: 30Hz~50KHz
Rear	: 100Hz~6KHz
Front	: 30Hz~50KHz
S/N Ratio	

Left, Right, Center(Weighted)	: 70dB
Rear(Weighted)	: 60dB

● **General**

Power consumption	: 340W
Power supply	: 230V, 50Hz
Dimension(W × H × D)	: 438×130.5×423.5mm
Weight	: 17Kg

Standard accessories

Remote control unit	1
Operator's manual	1

* For improvement purposes, specifications and design are subject to change without notice.

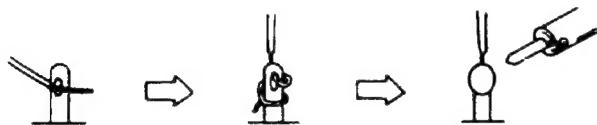
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SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the \triangle (+) symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
These must also be replaced only with specified replacements.
Examples :RF converters, tuner units, antenna selectswitches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially :
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers(insulating barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.



Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

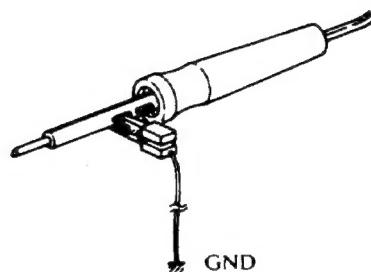
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 μ F capacitor, under the unit's normal working conditions.

The leakage-current should be less than 0.5mA rms AC. The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2M Ohms.

PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair adjustment, make sure that there are no metal objects in the narrow gap between the P. C. board or the mecha parts and the base
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration.



4. Do not loosen any screws in the pick-up block. When handing the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective lens) directly.
6. Models for some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below. Read it carefully for your safety, when repairing or adjusting the unit.

INFORMATION

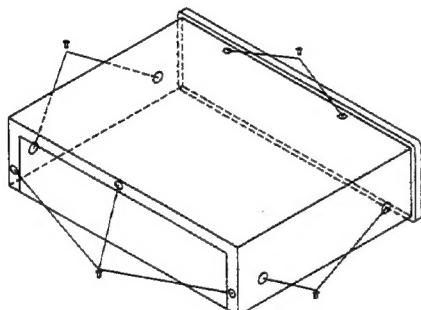
SYMBOLS FOR PRIMARY DESTINATION

Primary destination of units are indicated with the following alphabet.

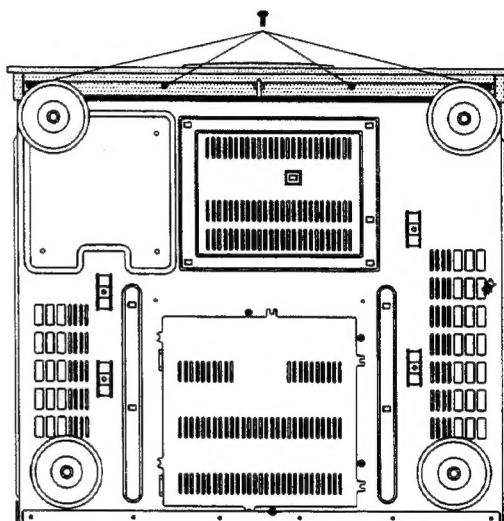
Symbols	Principal Destinations
B	UK
E	Europe (except UK)
S	Australia
U	Universal Area
Y*	Custom version

I . DISASSEMBLY

1) REMOVAL OF TOP COVER

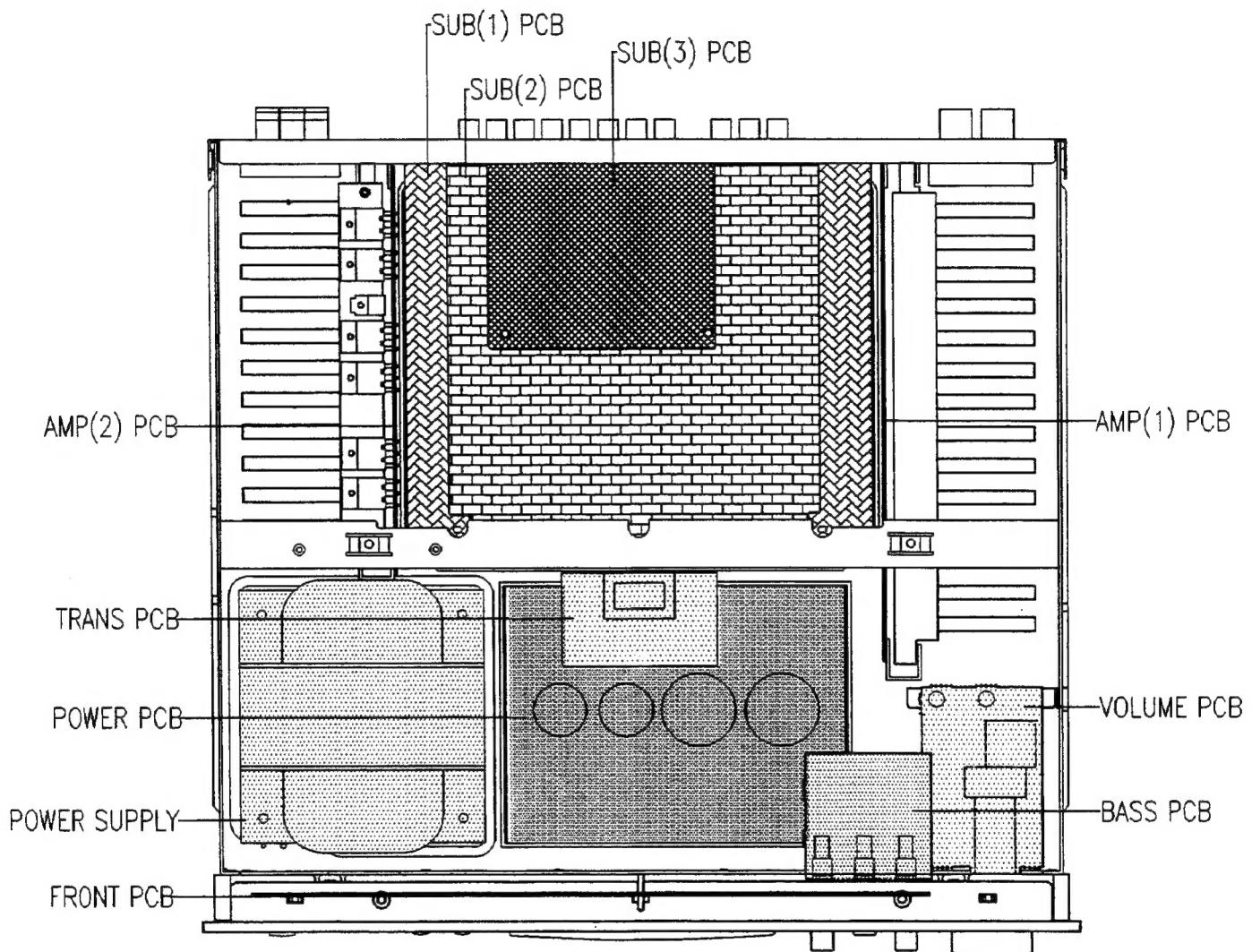


2) REMOVAL OF FRONT PANEL

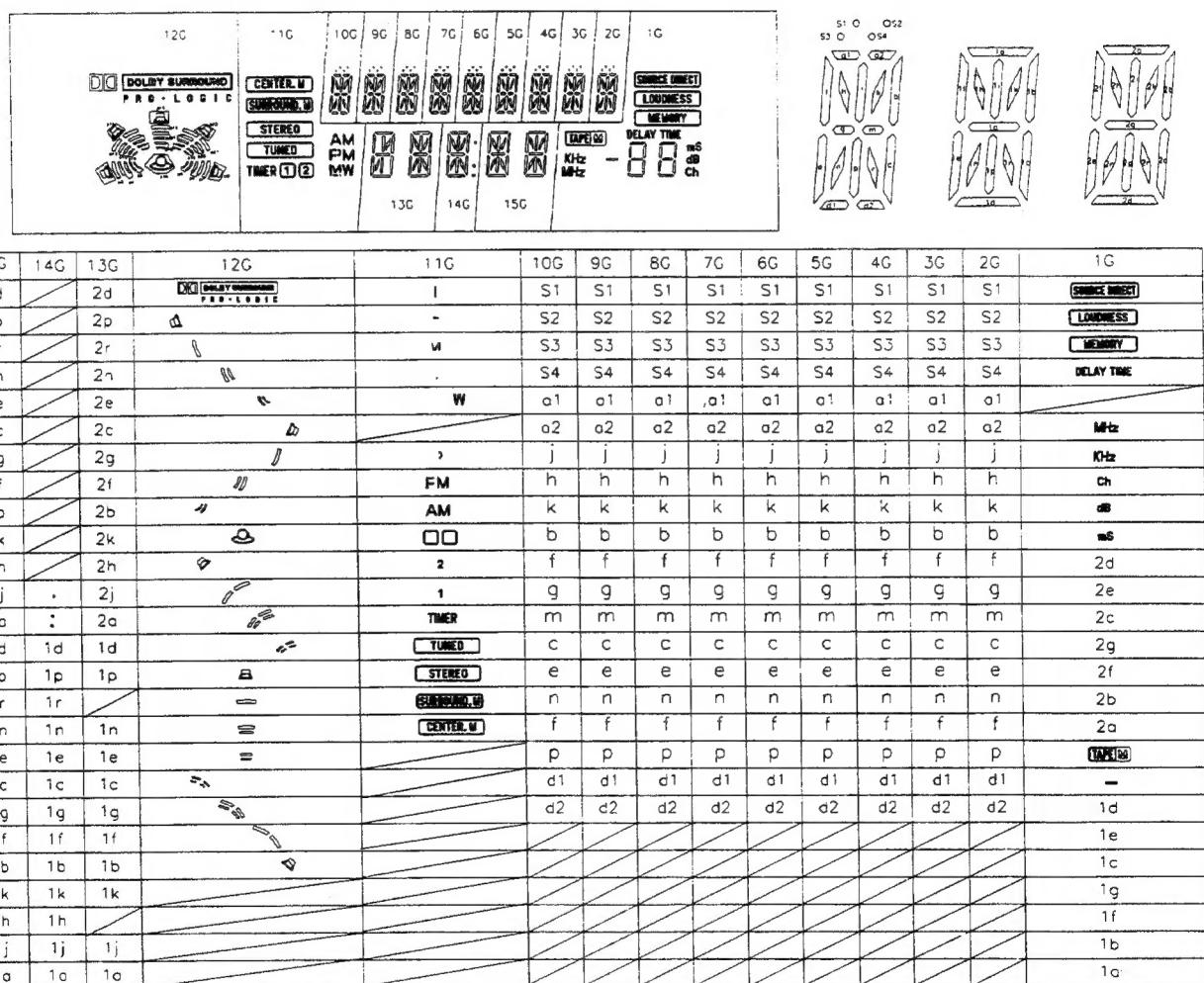


Remove the four screws by pulling them out.

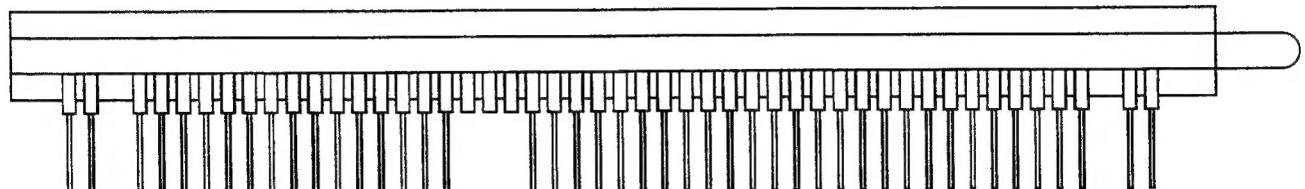
II . PRINCIPAL PARTS LOCATION



III .FIP DISPLAY

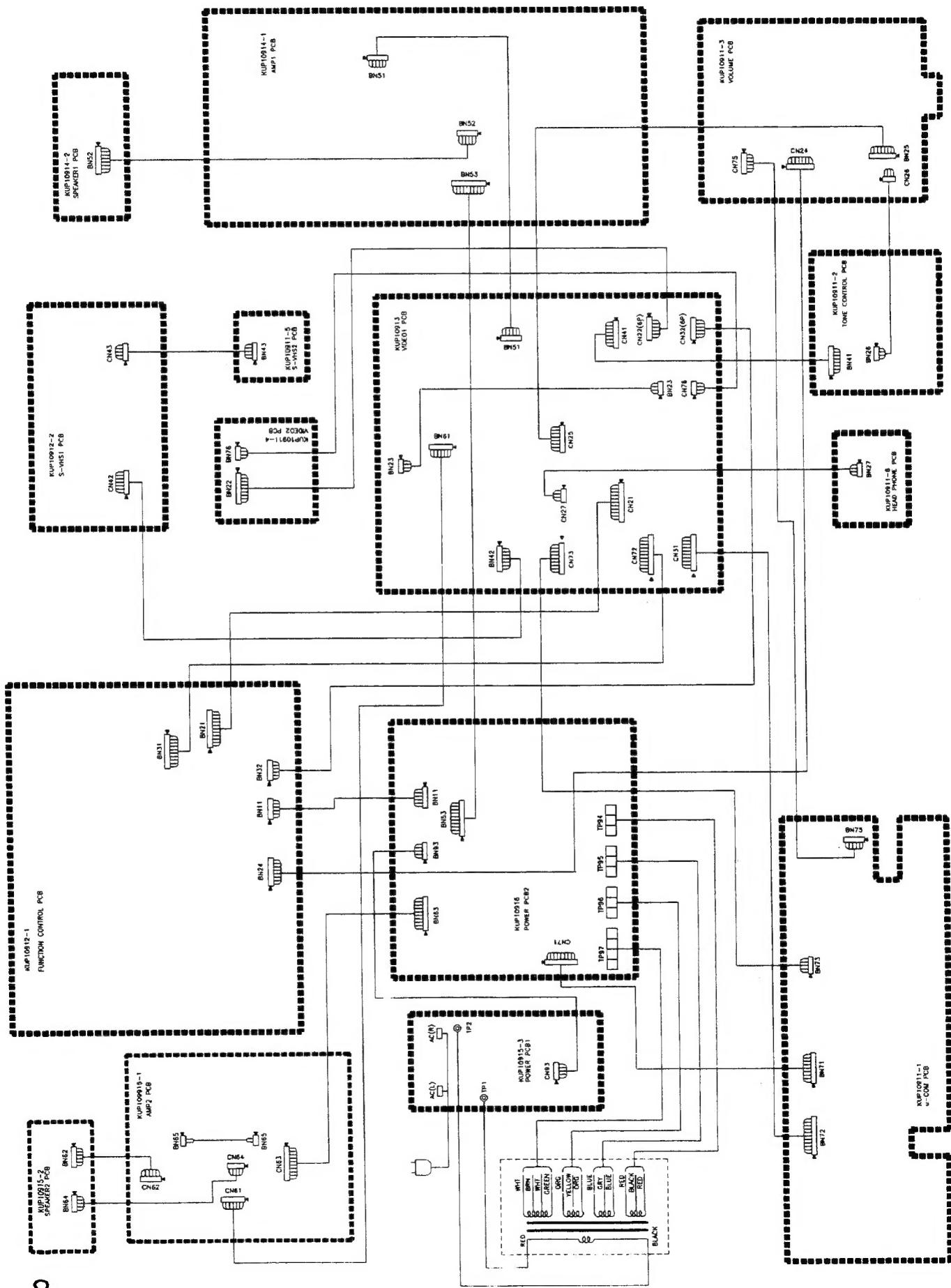


PIN CONNECTION

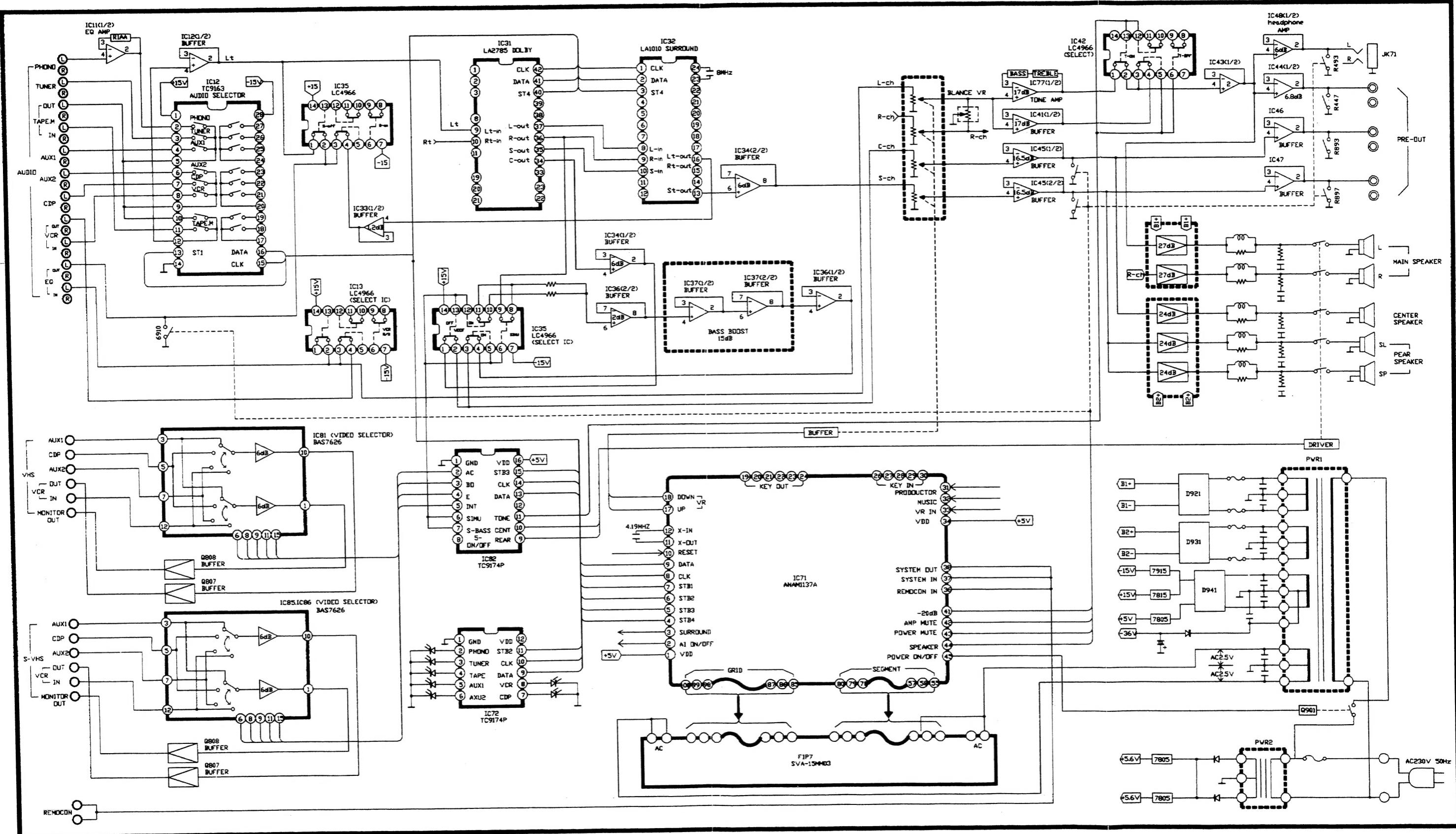


PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CONNECTION	F	F	NP	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G
PIN NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CONNECTION	3G	2G	1G	NX	NX	NX	P1	P2	P3	P4	P5	P6	P7	P8	P9
PIN NO.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CONNECTION	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24
PIN NO.	46	47	48	49	50										
CONNECTION	P25	P25	NP	F	F										

IV. WIRING DIAGRAM



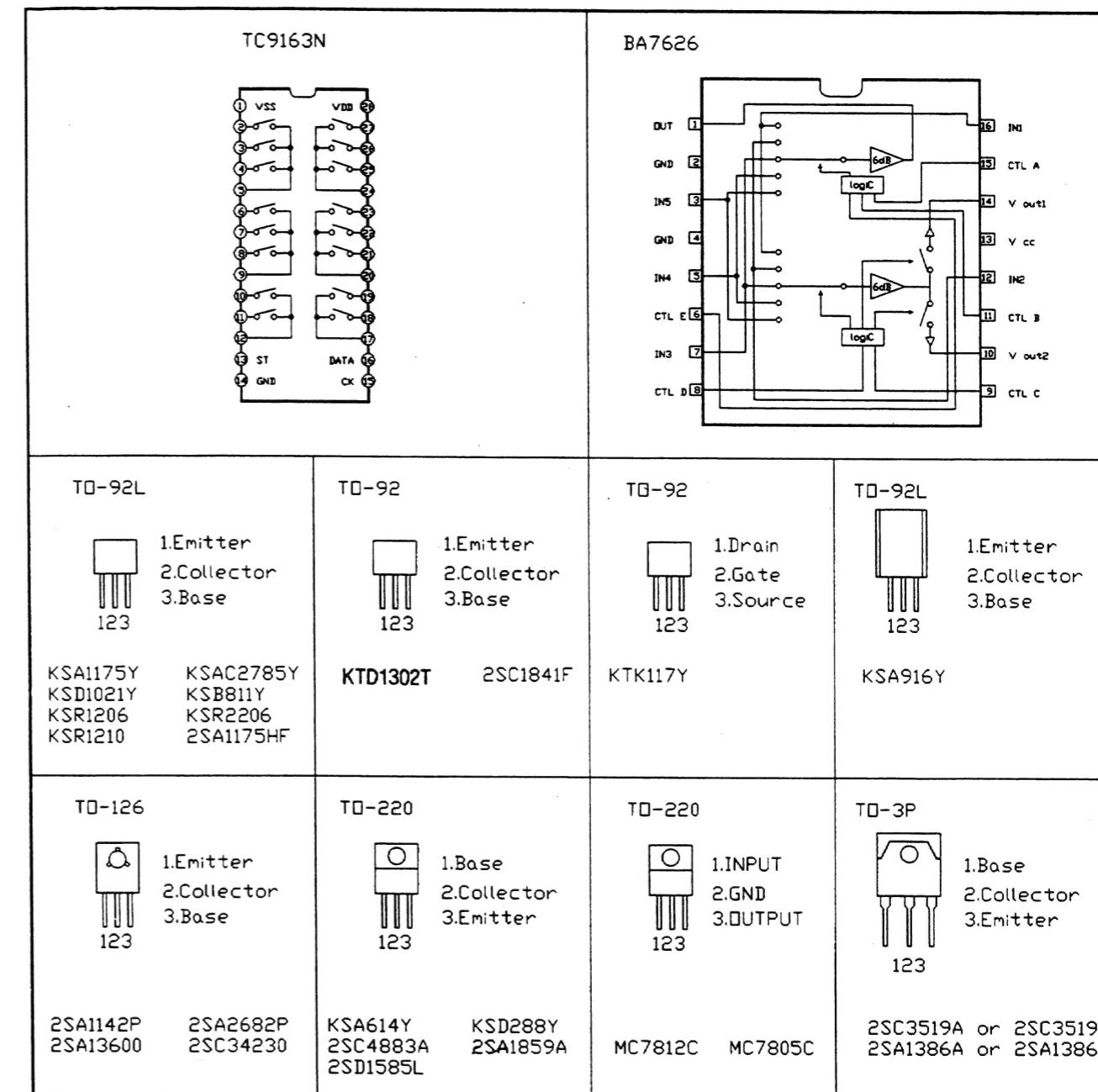
V. BLOCK DIAGRAM



IC 71 [ANAM 1137A(NEC : UPD78P0204GF)] μ -COM

NO.	SYMBOL	I/O	DESCRIPTION
1	V _{DD}	I	Power Supply
2	AI(ON/OFF)	I/O	AI LED Port
3	Surround	I/O	Surround ON/OFF
4	STB4	I/O	LA2785, LV1010 Control
5	STB3	I/O	IC82, TP9174 Control
6	STB2	I/O	IC72, TP9174 Control
7	STB1	I/O	IC12, TP9163 Control
8	CLK	I/O	Serial Clock
9	DATA	I/O	Serial Data
10	Reset	I	Reset
11	X-OUT	O	OSC output port
12	X-IN	I	OSC input port
13	V _{pp}	I	GND
14	XT2	O	N-C
15	XT1	I	Option
16	V _{DD}	I	Power supply
17	VR down	I/O	VR down control
18	VR up	I/O	VR up control
19~24	Key out	I/O	Key out Serial port
25	AVss	I	Analog Ground
26~29	Key in	I/O	Key in serial port
30	VR LED	I/O	VR LED port

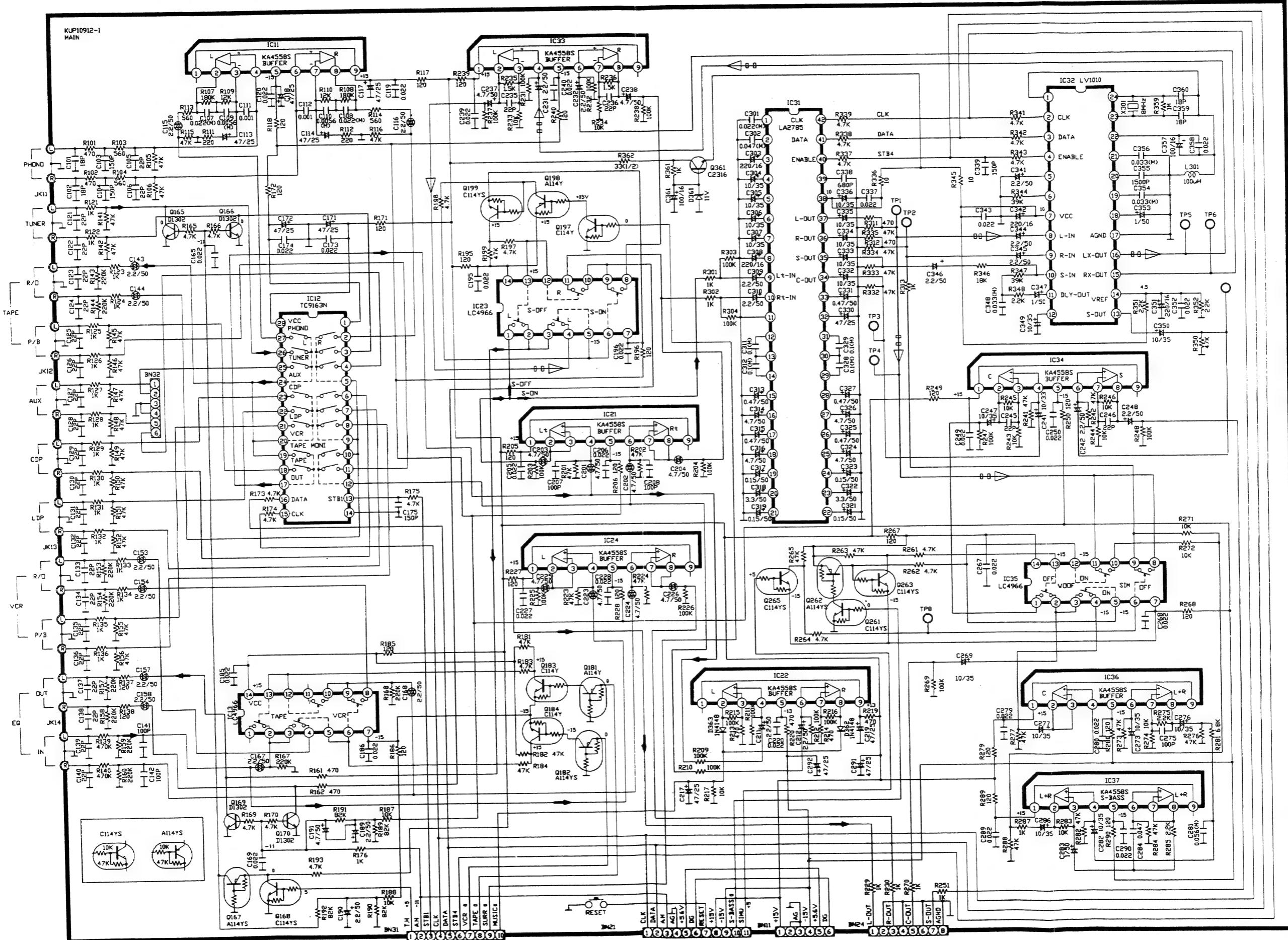
IC BLOCK DIAGRAM



VI. SCHEMATIC DIAGRAM

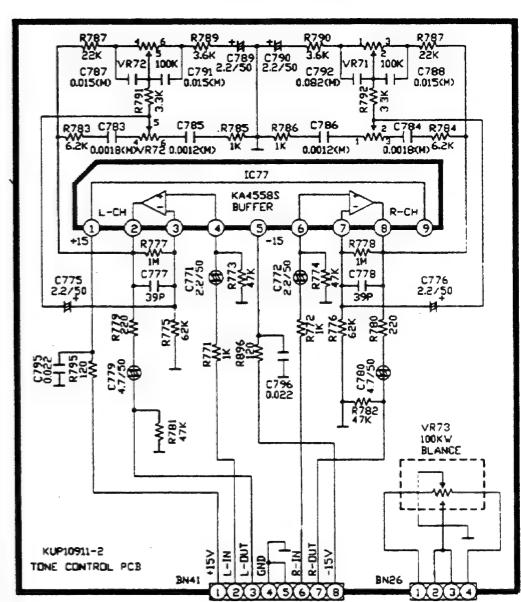
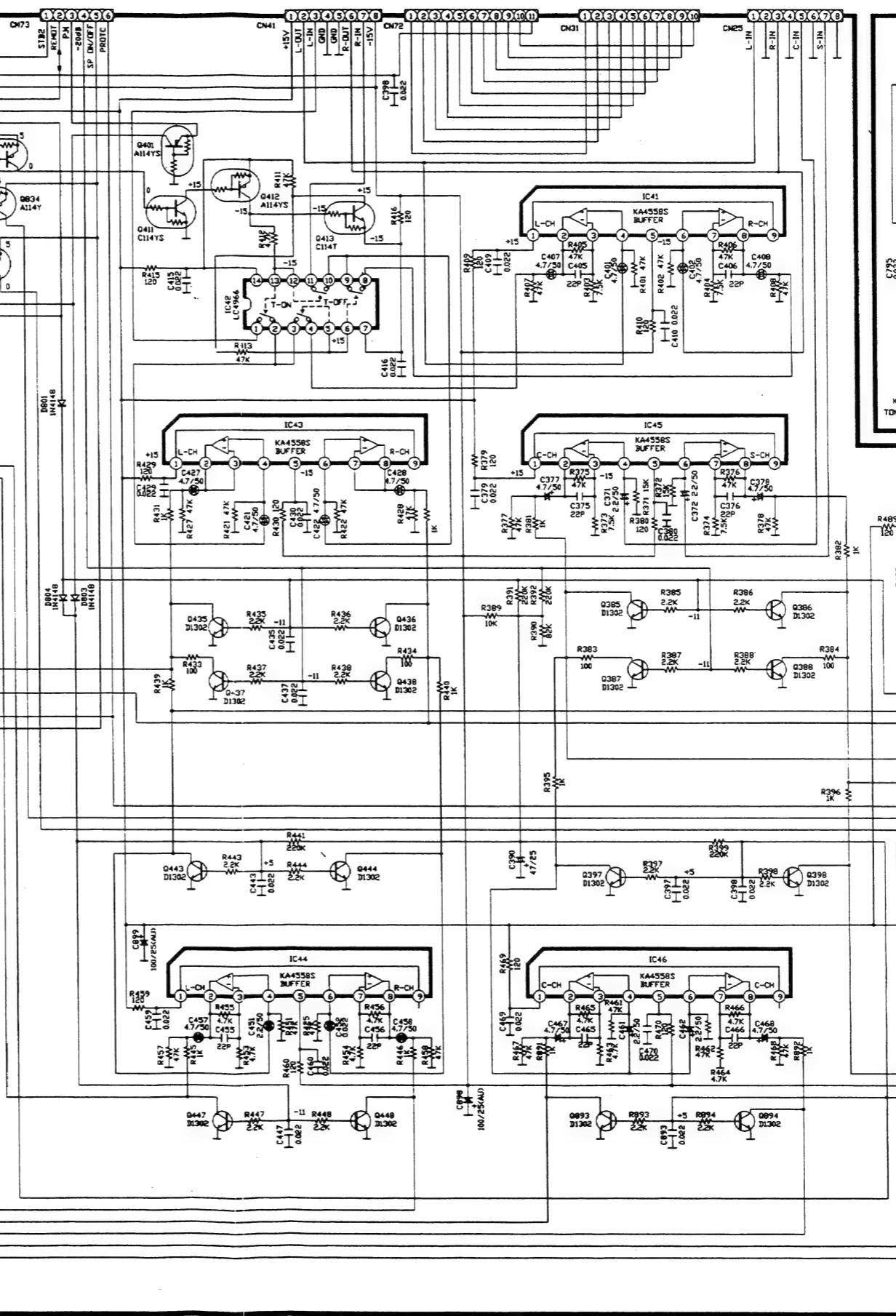
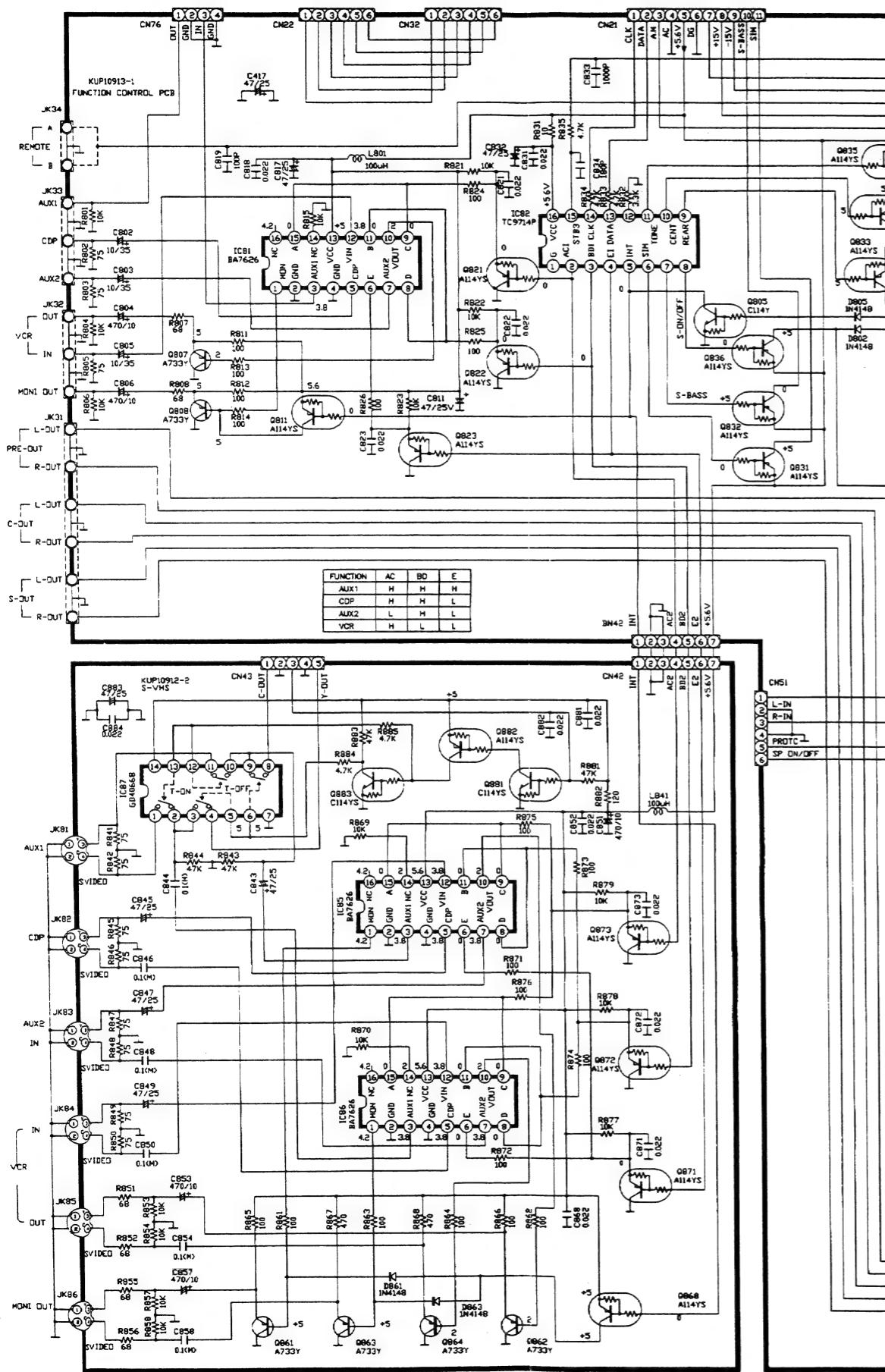
MAIN SCHEMATIC DIAGRAM

- IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY **A** MARK HAVE SPECIAL CHARACTERISTICS,
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
- THE UNIT OF RESISTANCE IS OHM (Ω)
 $K=1000$ OHM, $M=1000$ KOHM
- THE UNIT OF CAPACITANCE IS MICROFARAD (μF).
 $P=10^{-8}$ μF
- THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.



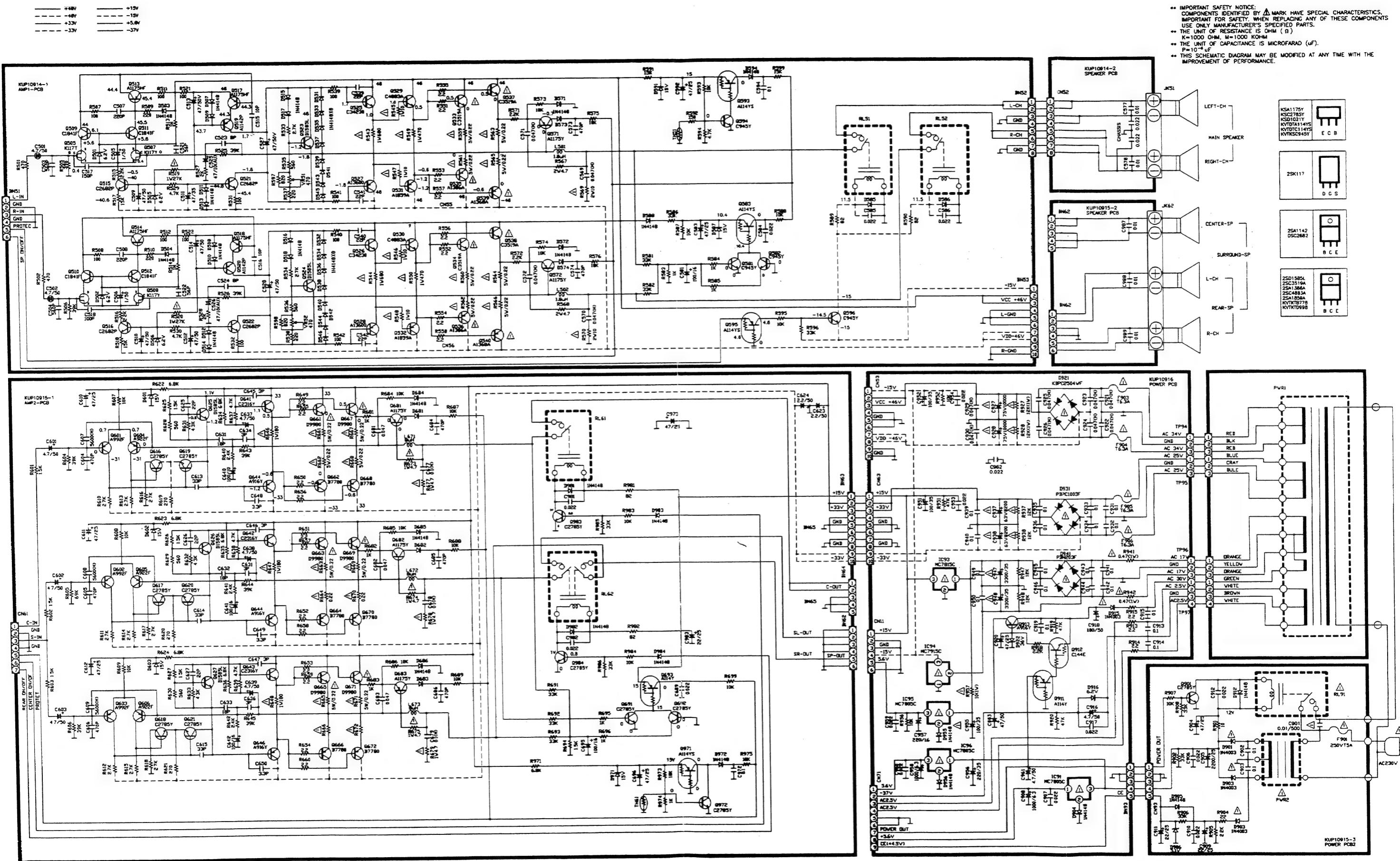
SUB SCHEMATIC DIAGRAM

-15
+15
5.6V

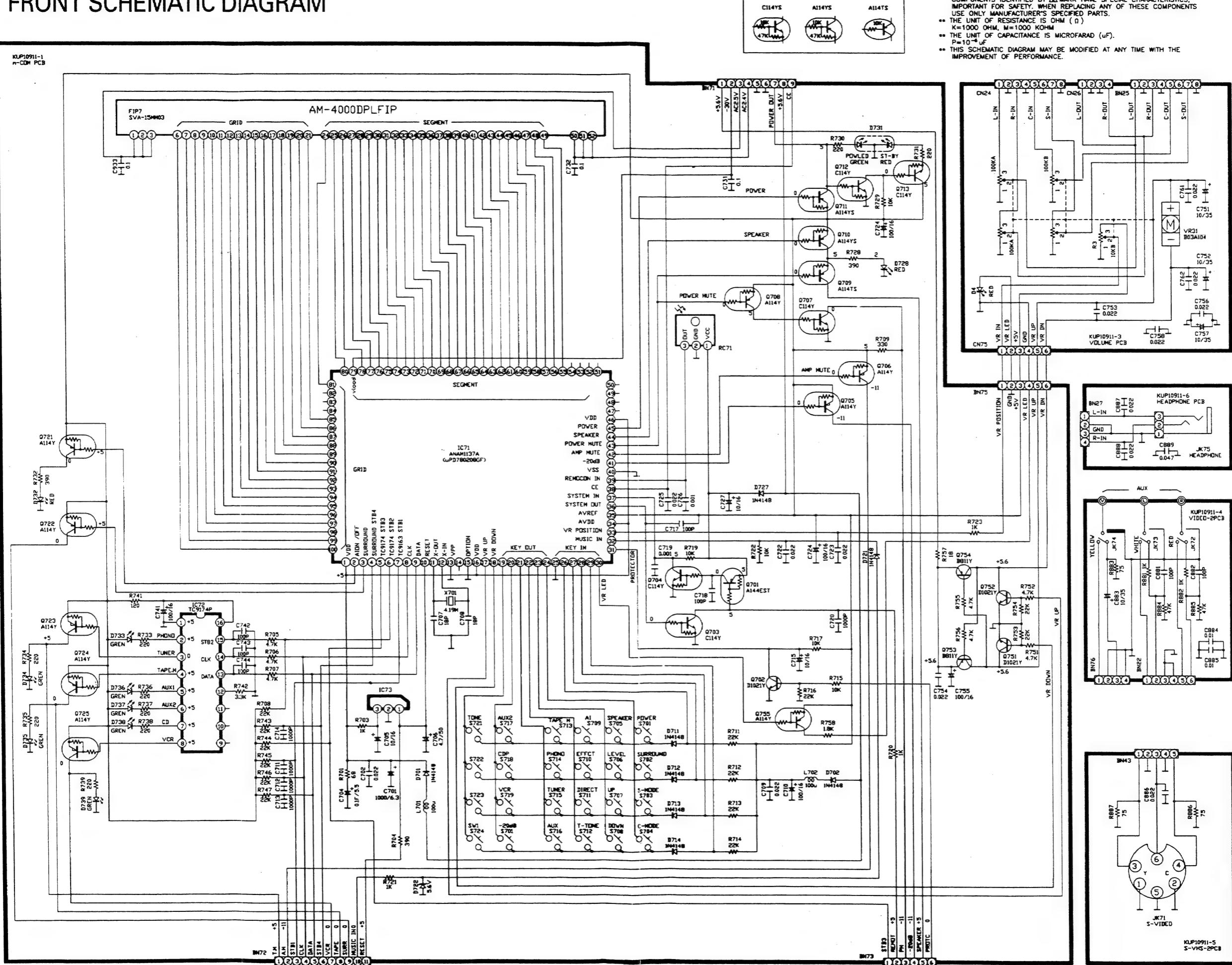


- **IMPORTANT SAFETY NOTICE:**
COMPONENTS IDENTIFIED BY  MARK HAVE SPECIAL CHARACTERISTICS,
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
- **THE UNIT OF RESISTANCE IS OHM (Ω)**
 $K=1000\text{ OHM}$, $M=1000\text{ KOHM}$
- **THE UNIT OF CAPACITANCE IS MICROFARAD (μF).**
 $P=10^{-6}\text{ μF}$
- **THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.**

AMP SCHEMATIC DIAGRAM



FRONT SCHEMATIC DIAGRAM

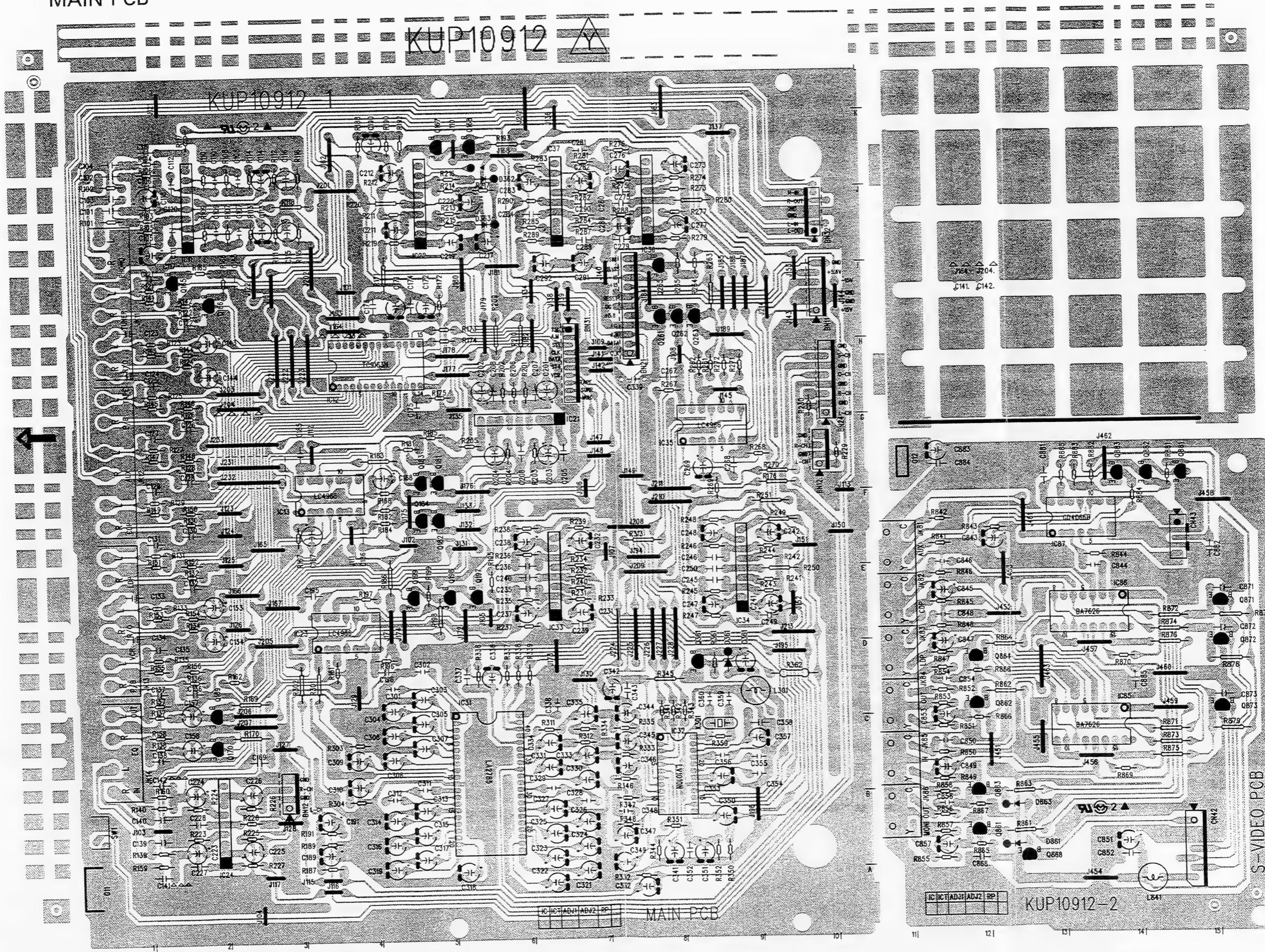


** IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
** THE UNIT OF RESISTANCE IS OHM (Ω)
K=1000 OHM, M=1000 KOMH
** THE UNIT OF CAPACITANCE IS MICROFARAD (μF)
P=10⁻⁹ F
** THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.

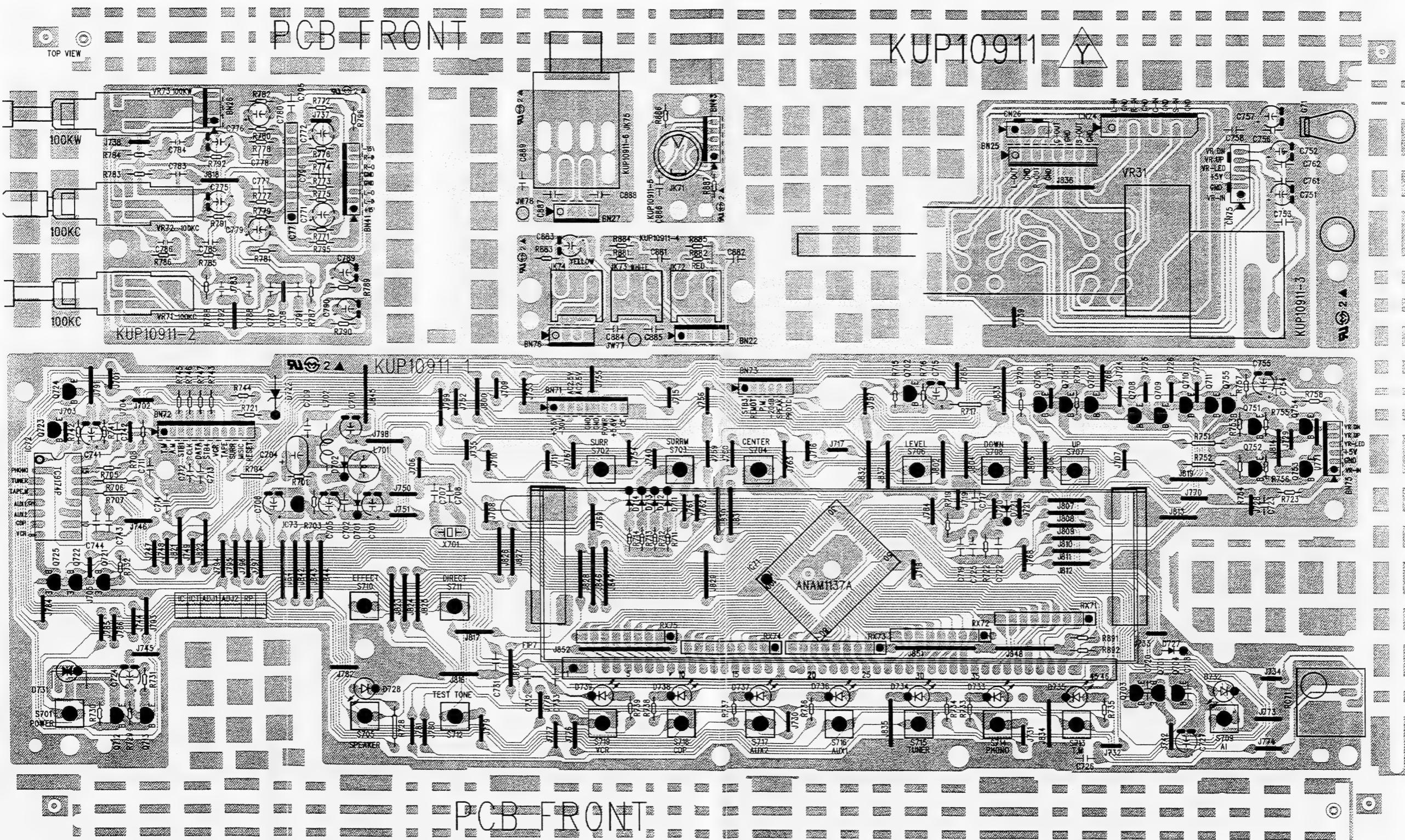
+5.6V
+5.0V

VII. PRINTED CIRCUIT BOARDS

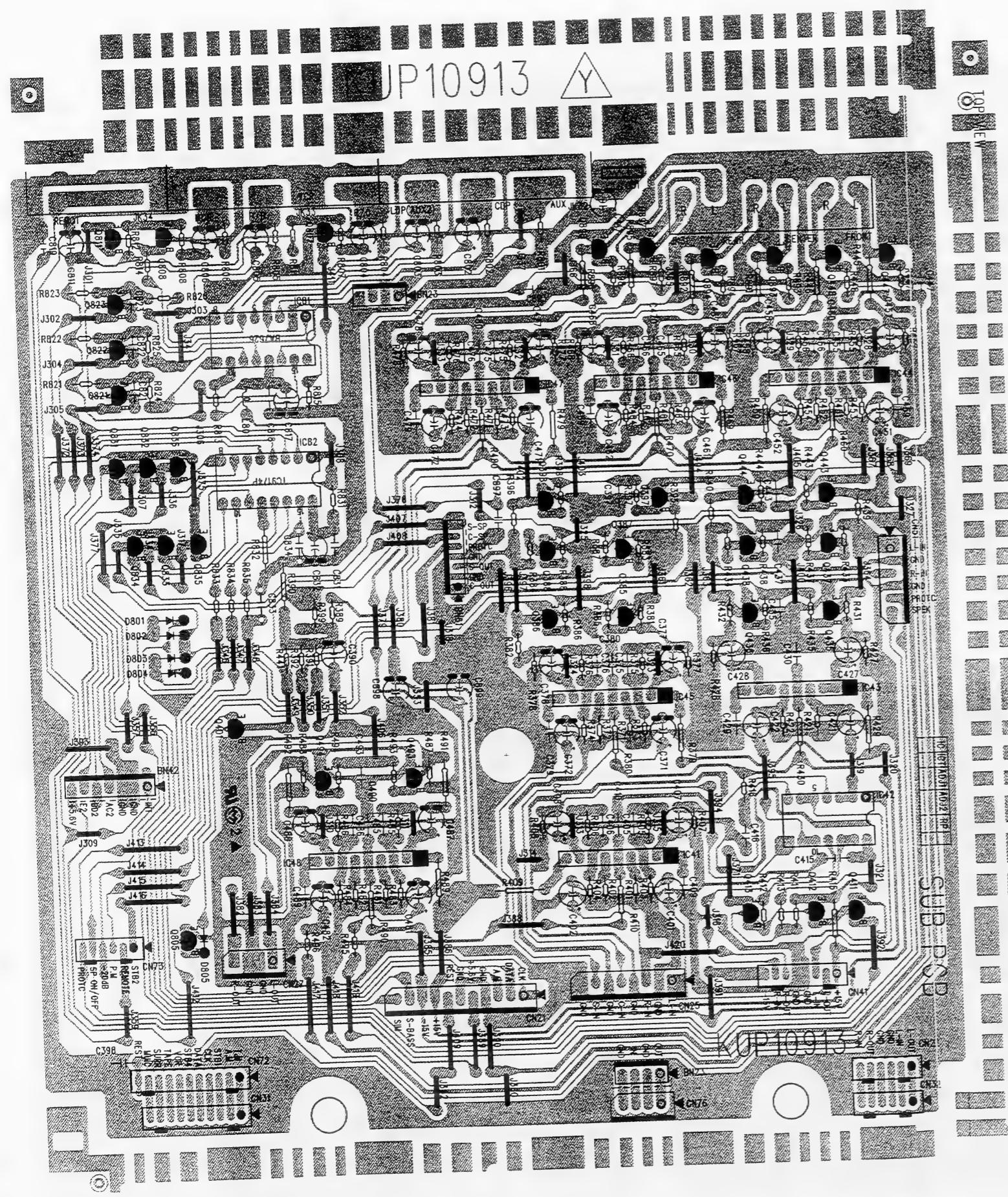
MAIN PCB



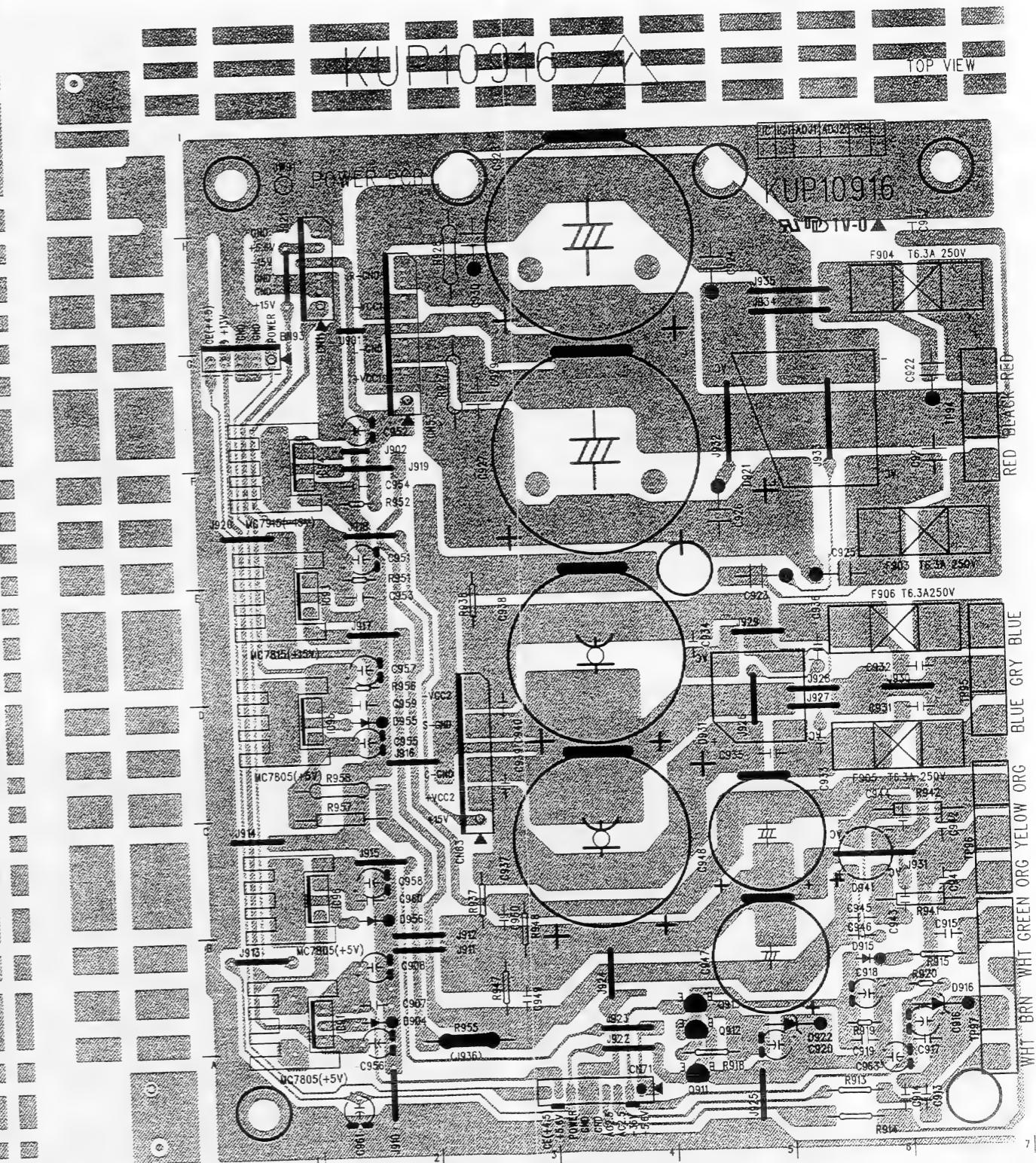
FRONT PCB



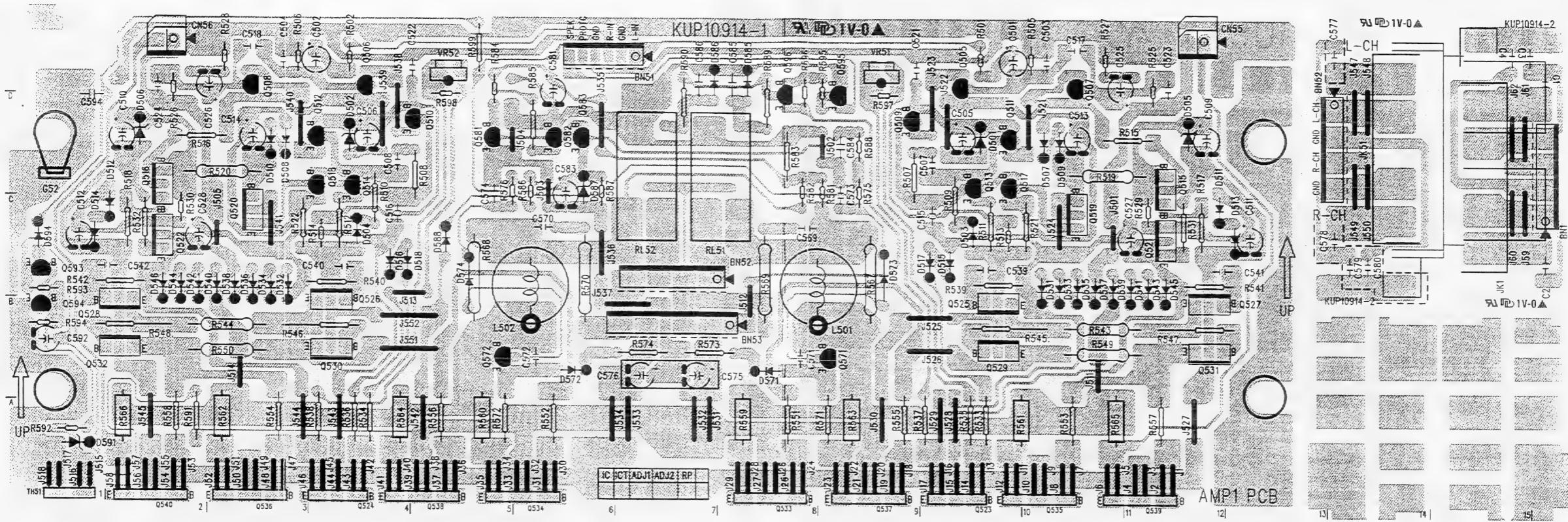
SUB PCB



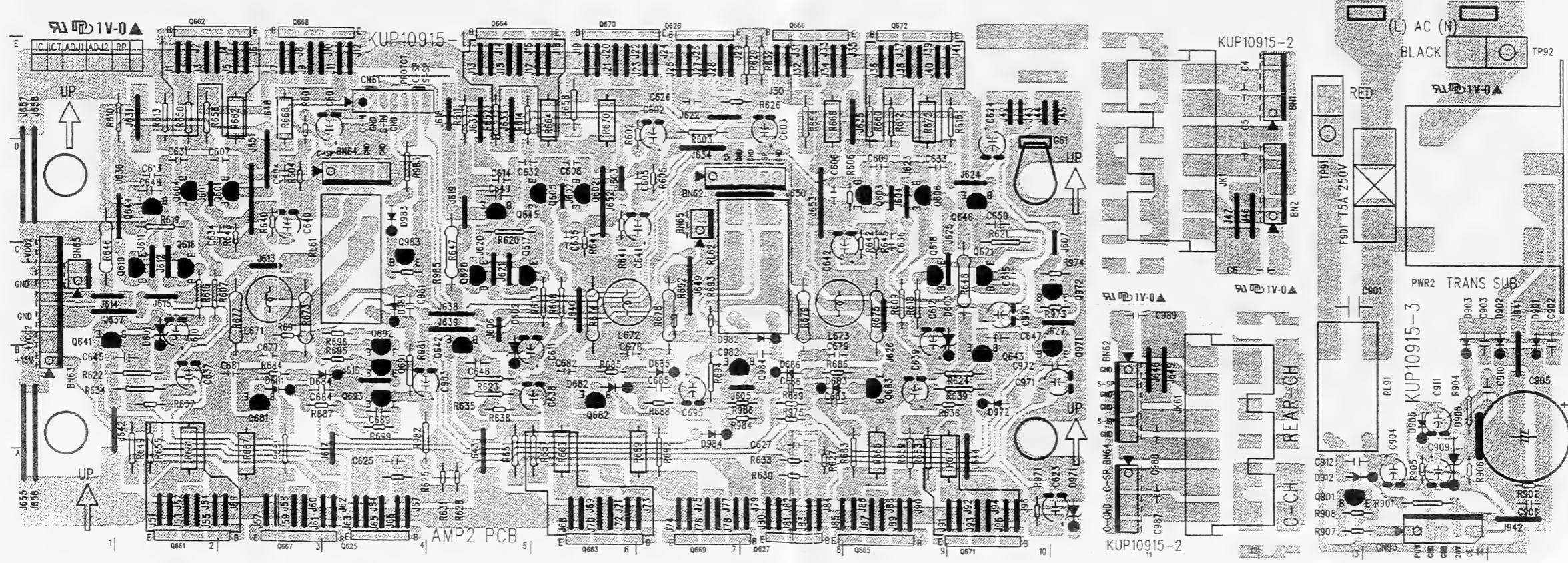
POWER PCI



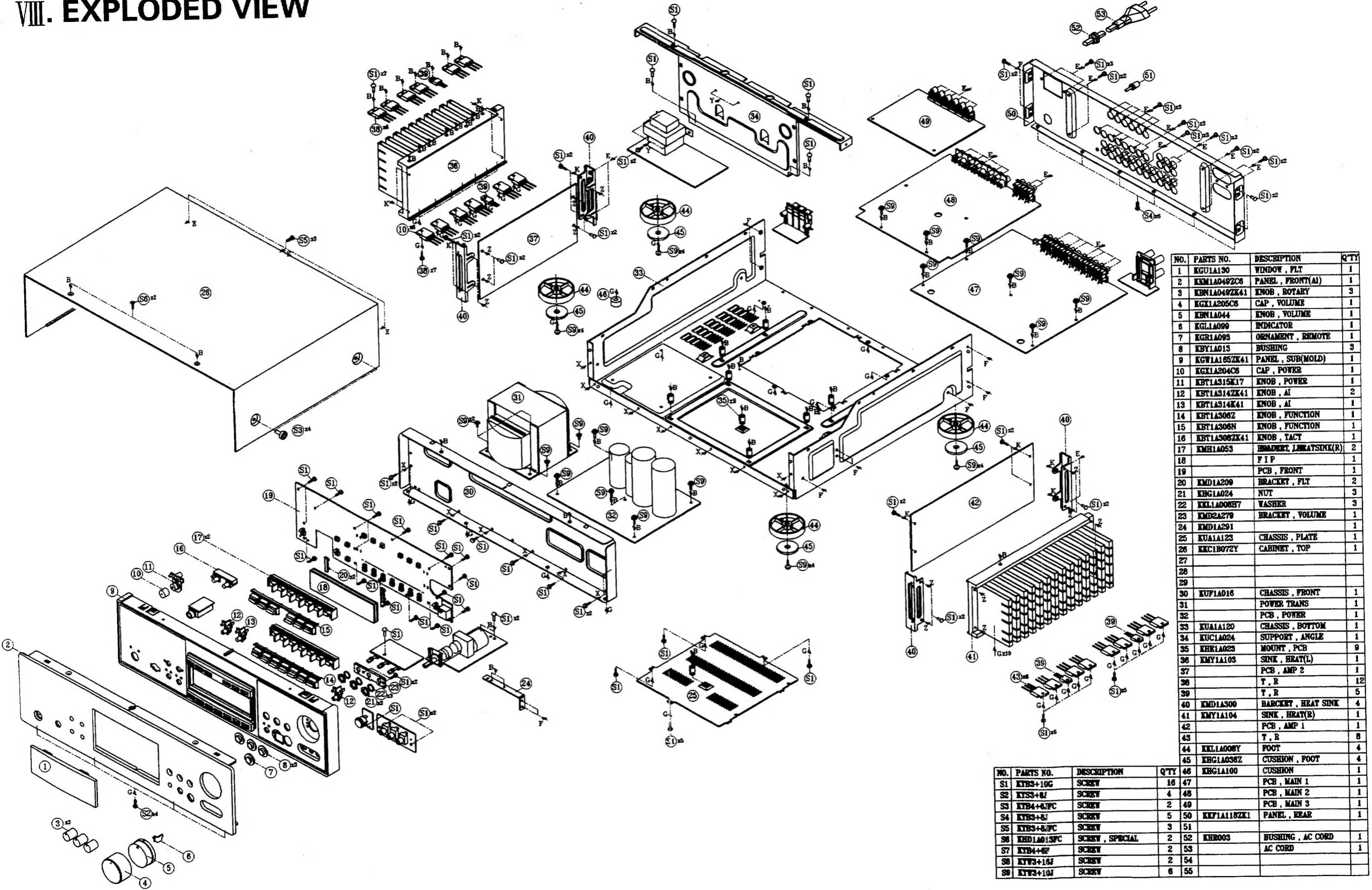
AMP1 PCB



AMP2 PCB



VIII. EXPLODED VIEW



IX. PARTS LIST

ATTENTION

- When placing an order for parts, be sure to list the Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
- Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
- Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

- This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
- Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
- How to read the Parts List.

■ Resistor and Capacitor

- Notes : · Part numbers are indicated for most mechanical parts.
Please use this part number for parts order.
- IMPORTANT SAFETY NOTICE.
Components identified by \triangle mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- The unit of resistance is OHM(Ω)
 $K=1000(\Omega)$, $M=1000(K\Omega)$
- The unit of capacitance is MICROFARAD(μF).
 $P=10^6\mu F$

■ Numbering System of Resistor

Example

KRD Type	25 Wattage	F Shape	J Tolerance	101 Value

■ Numbering System of Capacitor

Example

KRD Type	Wattage	Tolerance	KCKR Type	1H Voltage	101 Value	K Tolerance	B Peculiarity

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
KCB:Ceramic	OJ:6.3V	1H:50V DC	C: $\pm 0.25\mu F$
KCC:Ceramic	1A:10V	1:125V DC	G: $\pm 2\%$
KCK:Ceramic	1C:16V	KC:400V AC	J: $\pm 5\%$
KCFR:Semiconductor	1E:25V		K: $\pm 10\%$
KCQI:Polyester	1H:50V		Z: $+80\%, -20\%$
KCQP:Polypropylene	1V:35V		
KCQS:Polystyrol			

WARNING

\triangle (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

\triangle (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR L'ÉFABRICANT.

■ ELECTRICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
	P.C. Board Black	PART NO.	Q753, 754	KVTKSB811YT	T.R
	Part No.	Description	Q755	KVTDTA114YST	T.R
1. KOP10911C	FRONT PCB ASS'Y	S701-S716	KST1A012ZT	SW, TACT	
2. KOP10912C	MAIN PCB ASS'Y	S719			
3. KOP10913C	SUB PCB ASS'Y	BN22	KWZAV350022	SHIELD WIRE ASS'Y	
4. KOP10914C	AMP1 PCB ASS'Y	BN25	KWZAV350025	SHIELD WIRE ASS'Y	
5. KOP10915C	AMP2 PCB ASS'Y	BN26	KWZAV350026	SHIELD WIRE ASS'Y	
6. KOP10916C	POWER PCB ASS'Y	BN27	KWZAV350027	WIRE ASS'Y	
	FRONT PCB BLK CONSISTS OF FOLLOWING P.C.B	BN41	KWZAV350041	SHIELD WIRE ASS'Y	
	* μ -Com P.C.Board	BN43	KWZAV350043	SHIELD WIRE ASS'Y	
	* MOTOR VOL P.C.Board	BN71	KWZAV350071	WIRE ASS'Y	
	* FORT AUX1 P.C.Board	BN72	KWZAV350072	WIRE ASS'Y	
	* TONE CONTROL P.C.Board	BN73	KWZAV350073	WIRE ASS'Y	
	* PHONES P.C.Board	BN75	KWZAV350075	WIRE ASS'Y	
	MAIN PCB BLK CONSISTS OF FOLLOWING P.C.B	BN76	KWZAV350076	SHIELD WIRE ASS'Y	
	* MAIN P.C.Board	JW77	KWZAV350077	WIRE ASS'Y	
	* S-VHS P.C.Board	JW78	KWZAV350078	WIRE ASS'Y	
	SUB PCB BLK CONSISTS OF FOLLOWING P.C.B	CN24	KJP08GA01ZM	WAFER	
	* SUB P.C.Board	CN26	KJP04GA19ZM	WAFER	
	AMP1 PCB BLK CONSISTS OF FOLLOWING P.C.B	CN75	KJP06GA19ZM	WAFER	
	* AMP1 P.C.Board	C701	KCEA0JH102B	CAP, ELECT	
	* SPEAKER P.C.Board	C704	BCES5R5V104	CAP, GOLD	
	AMP2 PCB BLK CONSISTS OF FOLLOWING P.C.B	IC71	BVIANAM1137A		
	* AMP2 P.C.Board	IC72	BVITC9174P	IC	
	* SUB TRANS P.C.Board	IC73	BVIRE5VA30CC	IC(RESET)	
	* SPEAKER P.C.Board	IC77	KVIMC4558S	IC	
	POWER PCB BLK CONSISTS OF FOLLOWING P.C.B	JK71	BJJ9R001Z	JACK, S-VIDEO Y/C(S/W)	
	* POWER SUPPLY P.C.Board	JK72	KJJ4M009Z	JACK, VCR(S/W)	
		JK73	KJJ4M010Z	JACK, VCR(S/W)	
		JK74	KJJ4M011Z	JACK, VCR(S/W)	
		JK75	BJJ2E017Z	JACK	
		X701	KOX0419E120C	CRYSTAL	
		VR31	BVDB03A104Z	VOLUME, MOTOR	
		VR71	KVV3H03C104Z	RES, VARIABLE	
		VR72	KVV3H03C104Z	RES, VARIABLE	
		VR73	KVV3H06W104Z	RES, VARIABLE	
	1. FRONT PCB				
D701, 702	KVD1N4148MT	DIODE			
D711, 712					
D713, 714					
D722	KVDUZ5.6MT	DIODE, ZENER			
D728, 732	KVD342VCF02T085				
D731	KVDSPR39MVW3	L.E.D			
D733, 734	BVDLNJ301MPUJA				
D735, 736					
D737, 738					
D739					
Q701	KVTDTA144EST	T.R	D361	KVDMTZJ11BT	DIODE, ZENER
Q702	KVTKSD1021YT	T.R	D362, 363	KVD1N4148MT	DIODE
Q703, 704	KVTDTA114YST	T.R	D861	KVD1N4148MT	DIODE
Q707, 712			D863	KVD1N4148MT	DIODE
Q713			Q165, 166	KVTKTD1302T	T.R
Q705, 706	KVTDTA114YST	T.R	Q167	KVTDTA114YST	T.R
Q708, 710			Q168	KVTDTA114YST	T.R
Q711, 721			Q169, 170	KVTKD1302T	T.R
Q722, 723			Q181, 182	KVTDTA114YST	T.R
Q724, 725			Q183, 184	KVTDTA114YST	T.R
Q709	KVTDTA114TST	T.R	Q197	KVTDTA114YST	T.R
Q751, 752	KVTKSD1021YT	T.R	Q198	KVTDTA114YST	T.R
			Q199	KVTDTA114YST	T.R
			Q261	KVTDTA114YST	T.R
	2. MAIN PCB				

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
Q262	KVTDTC114YST	T.R	Q811	KVTDTC114YST	T.R
Q263	KVTDTC114YST	T.R	Q821~Q823	KVTDTC114YST	T.R
Q265	KVTDTC114YST	T.R	Q831~Q836	KVTDTC114YST	T.R
Q361	KVTKSC2316YT	T.R	Q893, 894	KVTKTD1302T	T.R
Q861~Q864	KVTKSA733CYT	T.R	Q897, 898	KVTKTD1302T	T.R
Q868	KVTDTC114YST	T.R	BN23	KWZAV350023	SHIELD WIRE ASS'Y
Q871~Q873	KVTDTC114YST	T.R	BN42	KWZAV350042	SHIELD WIRE ASS'Y
Q881	KVTDTC114YST	T.R	BN61	KWZAV350061	SHIELD WIRE ASS'Y
Q882	KVTDTC114YST	T.R	CN21	KJP11GA01ZM	WAFER
Q883	KVTDTC114YST	T.R	CN22	KJP06GA19ZM	WAFER
BN11	KWZAV350011	WIRE ASS'Y	CN25	KJP08GA01ZM	WAFER
BN12	KWZAV350012	SHIELD WIRE ASS'Y	CN27	KJP04GA01ZM	WAFER
BN21	KWZAV350021	WIRE ASS'Y	CN31	KJP10GA19ZM	WAFER
BN24	KWZAV350024	SHIELD WIRE ASS'Y	CN32	KJP06GA19ZM	WAFER
BN31	KWZAV350031	WIRE ASS'Y	CN41	KJP08GA19ZM	WAFER
BN32	KWZAV350032	SHIELD WIRE ASS'Y	CN51	KJP06GA19ZM	WAFER
CN42	KJP07GA10ZM	WAFER	CN72	KJP11GA01ZM	WAFER
CN43	KJP05GA19ZM	WAFER	CN73	KJP06GA01ZM	WAFER
IC11	KVIMC4558S	I.C	CN76	KJP04GA19ZM	WAFER
IC12	BVITC9163N	I.C	IC41	KVIMC4558S	I.C
IC13	BVILC4966	I.C	IC42	BVILC4966	I.C
IC21, 22	KVIMC4558S	I.C	IC42~Q48	KVIMC4558S	I.C
IC23	BVILC4966	I.C	IC81	BVIBA7626	I.C
IC24	KVIMC4558S	I.C	IC82	BVITC9174	I.C
IC31	KVILA2785	I.C, DOLBY	JK31	KJJ4R008Z	TERMINAL, IN/OUT
IC32	BVILV1010	I.C, SURROUND	JK32, 33	KJJ4S003Z	TERMINAL, IN/OUT
IC33, 34	KVIMC4558S	I.C	JK34	KJJ4N008Z	TERMINAL, INPUT
IC35	BVILC4966	I.C			
IC36, 37	KVIMC4558S	I.C			
IC85, 86	BVIBA7626	I.C			
IC87	KVIGD4066B	I.C			
R362	KRD50FJ330T	RES, CARBON	D501, 502	KVDMTZJ6.2BT	DIODE, ZENER
JK11~JK13	KJJ4R008Z	TERMINAL, IN/OUT	D503, 504	KVD1N4148MT	DIODE
JK14	KJJ4R009Z	TERMINAL, IN/OUT	D505, 506	KVDMTZJ6.2BT	DIODE, ZENER
JK81~JK86	BJJ9P001Z	CONNECTOR, DIN	D507~Q518	KVD1N4148MT	DIODE
L301	KLQB101KLZ	COIL, INDICATOR	D531~Q546	KVD1N4148MT	DIODE
L841	KLQB101KLZ	COIL, INDICATOR	D571, 572	KVD1N4148MT	DIODE
S101	KST1A010Z	SW, TACT	D573, 574	KVD1A4148T	DIODE
X301	KOX08000D160C	CRYSTAL	D585, 586	KVD1N4148MT	DIODE
			D587	KVDMTZJ15BT	DIODE, ZENER
			D588	KVD1N4148MT	DIODE
			D591	KBVMTZJ15BT	DIODE, ZENER
			D594	KVD1N4148MT	DIODE
			Q505~Q508	KVTKTK117YT	F.E.T
			Q523, 524	BVT2SD1585L	T.R
			Q553, 534	BVT2SC3519A	T.R, POWER
			Q535, 536	BVT2SA1386A	T.R, POWER
			Q537, 538	BVT2SC3519A	T.R, POWER
			Q539, 540	BVT2SA1386A	T.R, POWER
			Q571, 572	KVTKSA1175YT	T.R
			Q581, 582	KVTKSC945CYT	T.R
			Q583	KVTDTC114YST	T.R
			Q593	KVTDTC114YST	T.R
			Q594	KVTKSC945CYT	T.R
			Q595	KVTDTC114YST	T.R
			Q596	KVTKSC945CYT	T.R

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
Q509, 510	BVT2SC1841F	T.R	Q901	KVTKSC2785YT	T.R
Q511, 512	BVT2SC1841F	T.R	Q971	KVTDTA114YST	T.R
Q513, 514	BVT2SA1175HF	T.R	Q972	KVTKSC2785YT	T.R
Q515, 516	BVT2SC2682P	T.R	Q983, 984	KVTKSC2785YT	T.R
Q517, 518	BVT2SA1175HF	T.R	BN62	KWZAV350062	WIRE ASS'Y
Q519, 520	BVT2SA1142P	T.R	BN63	KWZAV350063	WIRE ASS'Y
Q521, 522	BVT2SC2682P	T.R	BN64	KWZAV350064	WIRE ASS'Y
Q525, 526	BVT2SC3423O	T.R	BN65	KWZAV350065	WIRE ASS'Y
Q527, 528	BVT2SA13600	T.R	CN61	KJP07GA19ZM	WAFER
Q529, 530	BVT2SC4883A	T.R, DRIVER	CN93	KJP05GA01ZM	WAFER
Q531, 532	BVT2SA1859A	T.R, DRIVER	C901	BCKWKC103MF	CAP, CERAMIC
BN51	KWZA350051	SHIELD WIRE ASS'Y	C905	KCEA1EH22E	CAP, ELECT
BN52	KWZA350052	WIRE ASS'Y	R646~R648	KGR1ANJ181H	RES, METAL OXIDE FILM
BN53	KWZA350053	WIRE ASS'Y	R661~R672	KRF5EKR22H	RES, CEMENT
CN55, 56	KJP02GB03ZM	WAFER	R673~R679	KRG1ANJ4R7H	RES, METAL OXIDE FILM
R519, 520	KRG1ANJ273H	RES, METAL OXIDE FILM	JK62	KJJ5R004Z	TERMINAL, SPEAKER
R543, 544	KRG1ANJ681H	RES, METAL OXIDE FILM	L671~L673	KLEYK1R8KA	COIL
R545~R548	KRG1ANJ100H	RES, METAL OXIDE FILM	PWR2	KLT5J021ZE	TRANS, SUB
R549, 550	KRG1ANJ471H	RES, METAL OXIDE FILM	RL61	KSL1A007ZE	RELAY
R559~R566	KRF5EKR22H	RES, CEMENT	RL62	BSL4A004ZU	RELAY
R567, 568	KRG2ANJ4R7H	RES, METAL OXIDE FILM	RL91	KSL1A007ZE	RELAY
RL51, 52	KSL1A007ZE	RELAY	TH61	BRTP4A471BC	THERMISTOR, PTC
JK51	KJJ5P009Z	TERMINAL, SPEAKER			6. POWER PCB
L501, 502	KLR9Y003Z	COIL, SPEAKER	D904	KVD1N4148MT	DIODE
TH51	BRTP4A471BC	THERMISTOP, PTC	D915	KVD1N4003SRT	DIODE, RECT
		5. AMP2 PCB	D916	KVDUZ6.2BMT	DIODE, ZENER
L701	KLZ9H001Z	BEAD, CORE	D922	KVDUZ36BMT	DIODE, ZENER
L702	KLZ9I001Z	BEAD, CORE	D955, 956	KVD1N4148MT	DIODE
RC71	KRVSRS5P	SENSOR, REMOCON	D921	BVDKBPC2504MF	DIODE, BRIDGE
D601~D603	KVDMTZJ15BT	DIODE, ZENER	D931	BVDPBPC1003F	DIODE, BRIDGE
D681~D683	KVD1N4148MT	DIODE	D941	BVD2W02GF	DIODE, BRIDGE
D684~D686	KVD1N4148MT	DIODE	Q911	KVTDTC144EST	T.R
D901~D903	KVD1N4003SRT	DIODE, RECT	Q912	KVTKSA916YT	T.R
D905	KVD1N4148MT	DIODE	Q913	KVTDTA114YST	T.R
D906	KVDUZ5.1BMT	DIODE, ZENER	BN93	KWZAV350093	WIRE ASS'Y
D912	KVD1N4148MT	DIODE	CN11	KJP06GA01ZM	WAFER
D971	KVDMTZJ15BT	DIODE, ZENER	CN53	KJP10GA01ZM	WAFER
D972	KVD1N4148MT	DIODE	CN63	KJP10GA01ZM	WAFER
D981~D984	KVD1N4148MT	DIODE	CN71	KJP09GA19ZM	WAFER
Q601~Q606	KVTKSA992FT	T.R	WP94, 95	KJP03GA65ZP	WAFER
Q616~Q621	KVTKSC2785YT	T.R	C927, 928	KCET75VAM103R	CAP, ELECT
Q625~Q627	BVT2SD1585L	T.R	C929, 930	KCKW2H103PE	CAP, CERAMIC
Q641~Q643	KVTKSC2316YT	T.R	C937, 938	KCET63VAM822N	CAP, ELECT
Q644~Q646	KVTKSA916YT	T.R	C947, 948	KCEA1VH332E	CAP, ELECT
Q661, 663	KVTKTD9980	T.R	IC91	KVIM7805C	I.C
Q665, 667			IC93	KVIM7815C	I.C
Q669, 671			IC94	KVIM7915C	I.C
Q662, 664	KVTKTB7780	T.R	IC95, 96	KVIM7805C	I.C
Q666, 668			R927, 928	KGR1ANJ123H	RES, METAL OXIDE FILM
Q670, 672			R941, 942	KRQ1CJR47	RES, FUSE
Q681~Q683	KVTKSA1175YT	T.R	R957	KRQ1CJ100	RES, FUSE
Q691, 692	KVTKSC2785YT	T.R			
Q693	KVTDTA114YST	T.R			